

Outline

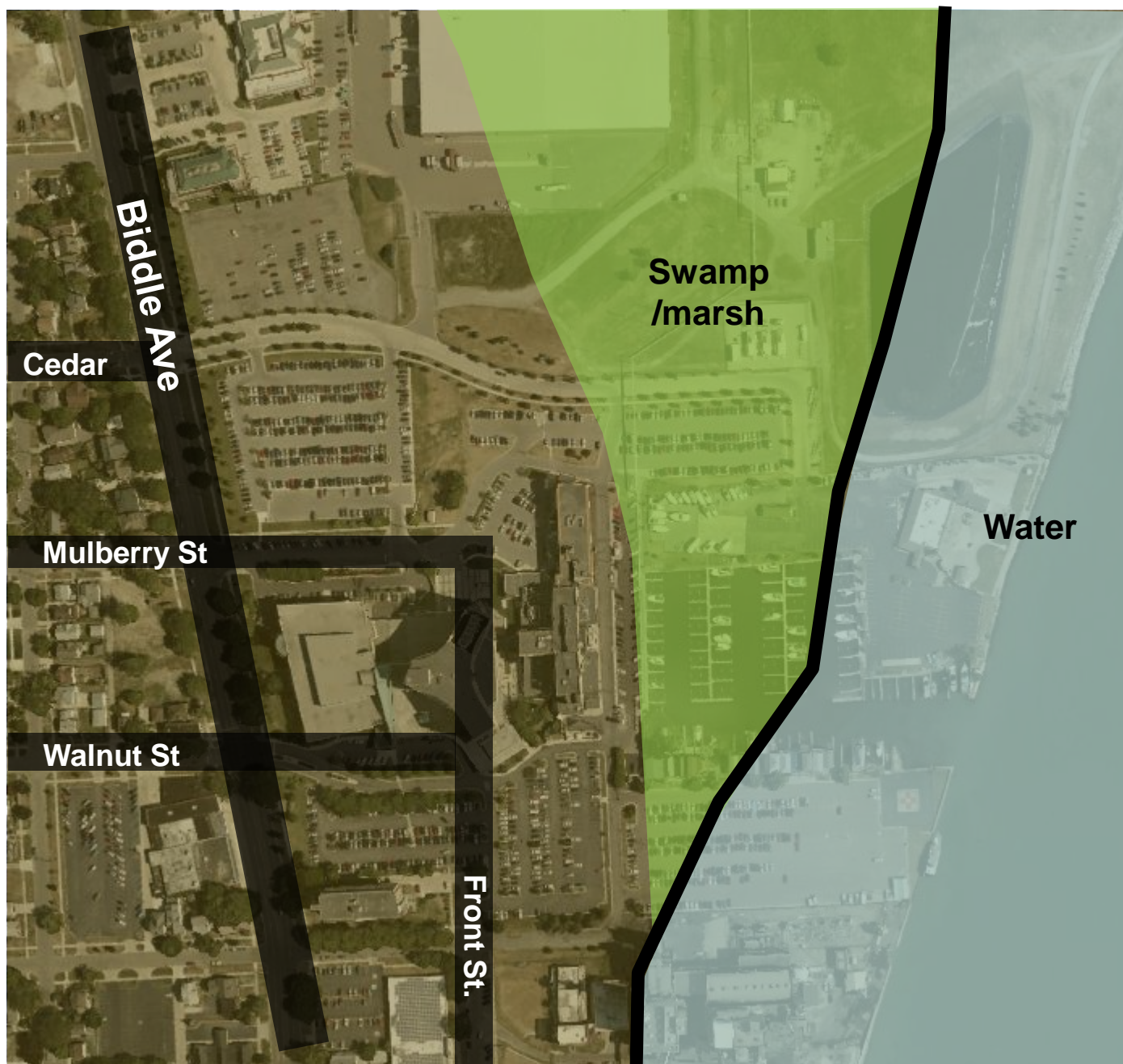
- Summary
- History of area
- Pre-investigation status
- CMS investigation results
- Next steps

Southern Boundary Conceptual Site Model (CSM) updates:

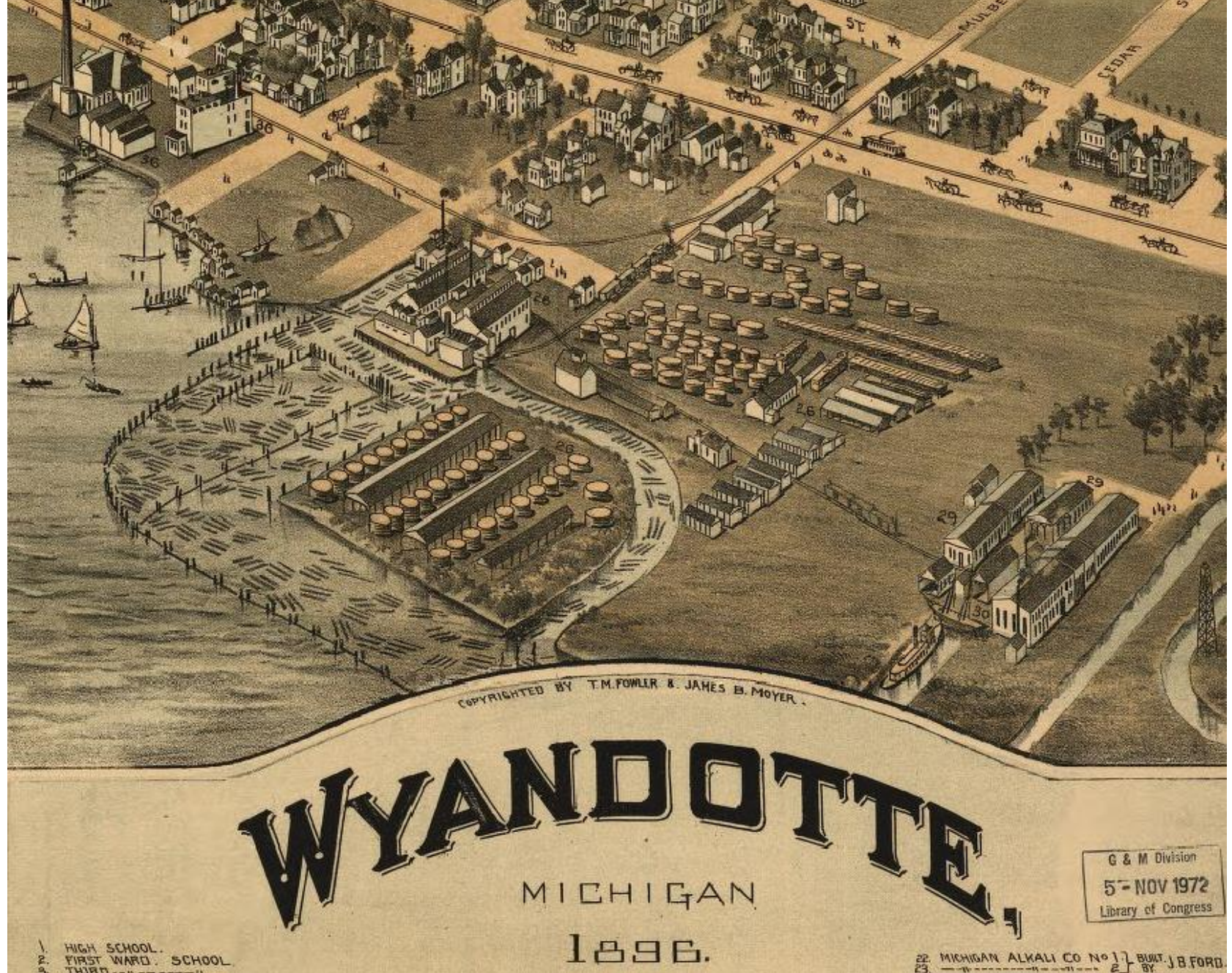
Pre-Investigation	Post-Investigation
VOCs > FAV near property boundary	VOCs > FAV at property boundary
Benzene > 50 PPM present at single location	Benzene at 10s-100s PPM present across >100' section at property boundary
Some organic material present due to naturally occurring peat layer	“Significant” organic material present due to <u>both</u> peat layer and wood from historical uses in the 1800s

Imagine the result

1876



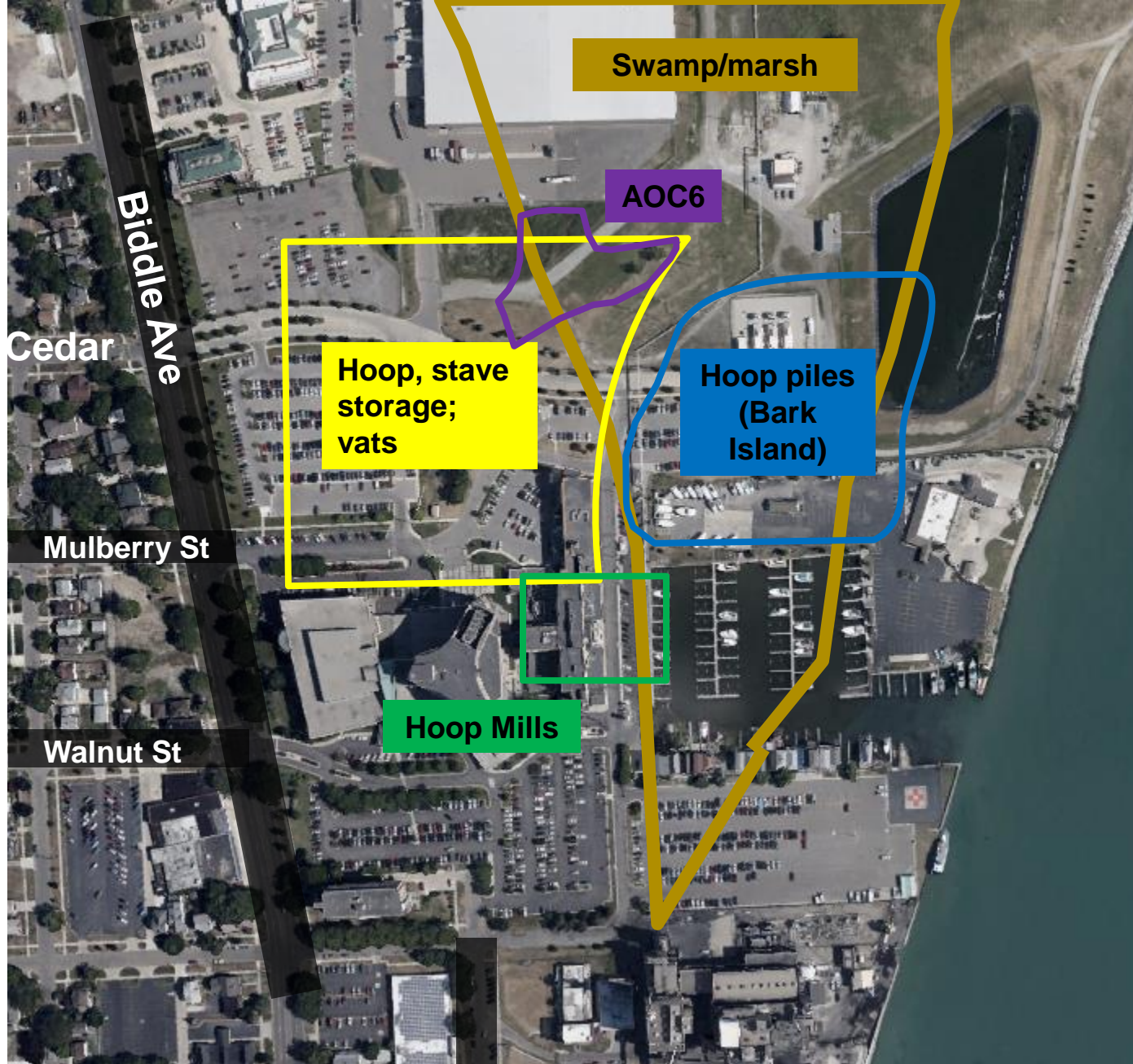
Imagine the result



Imagine the result

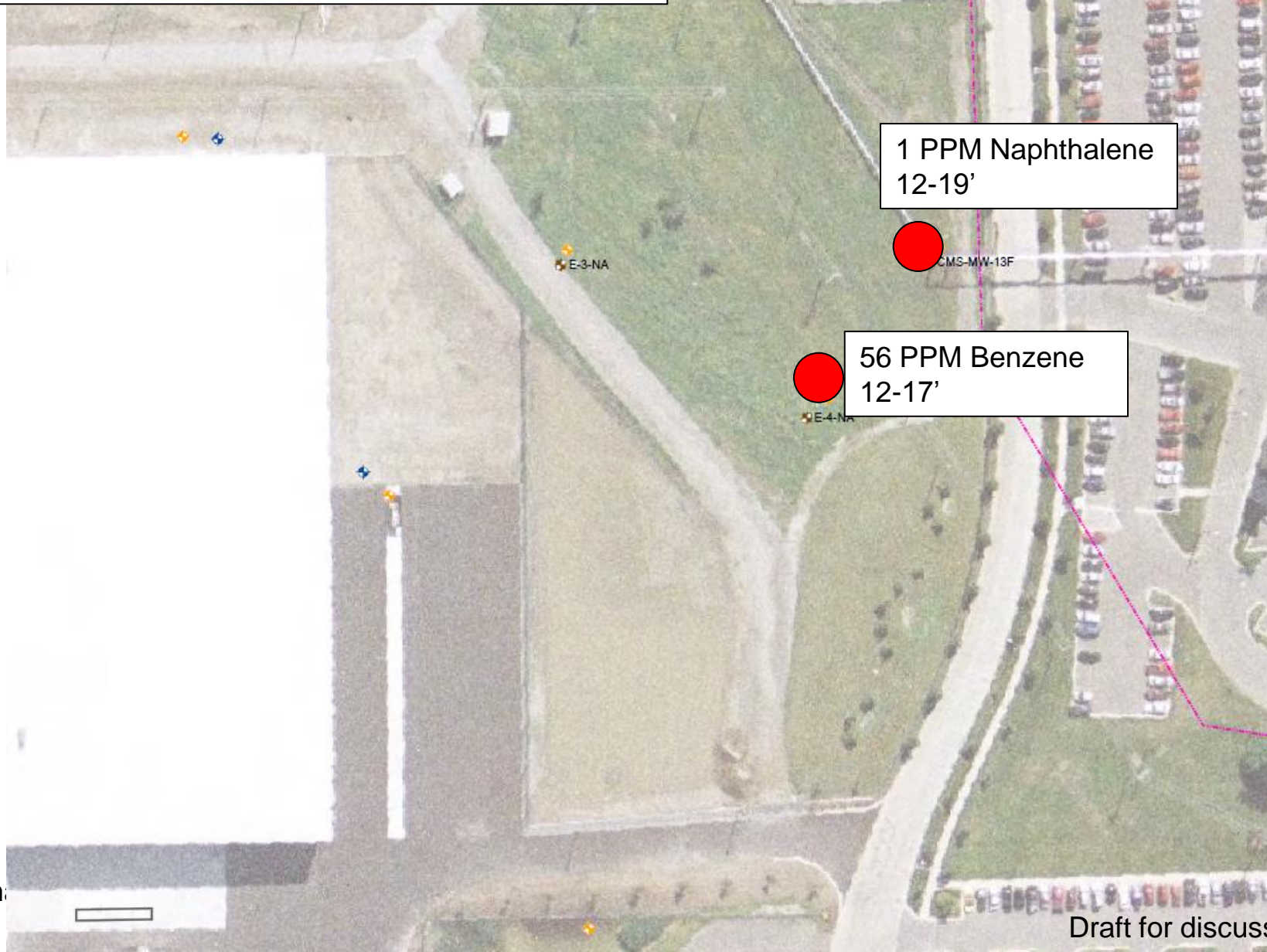


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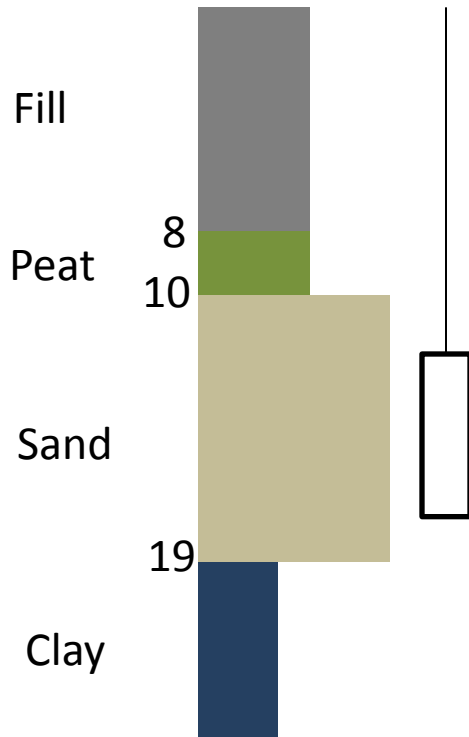


Imagine the result

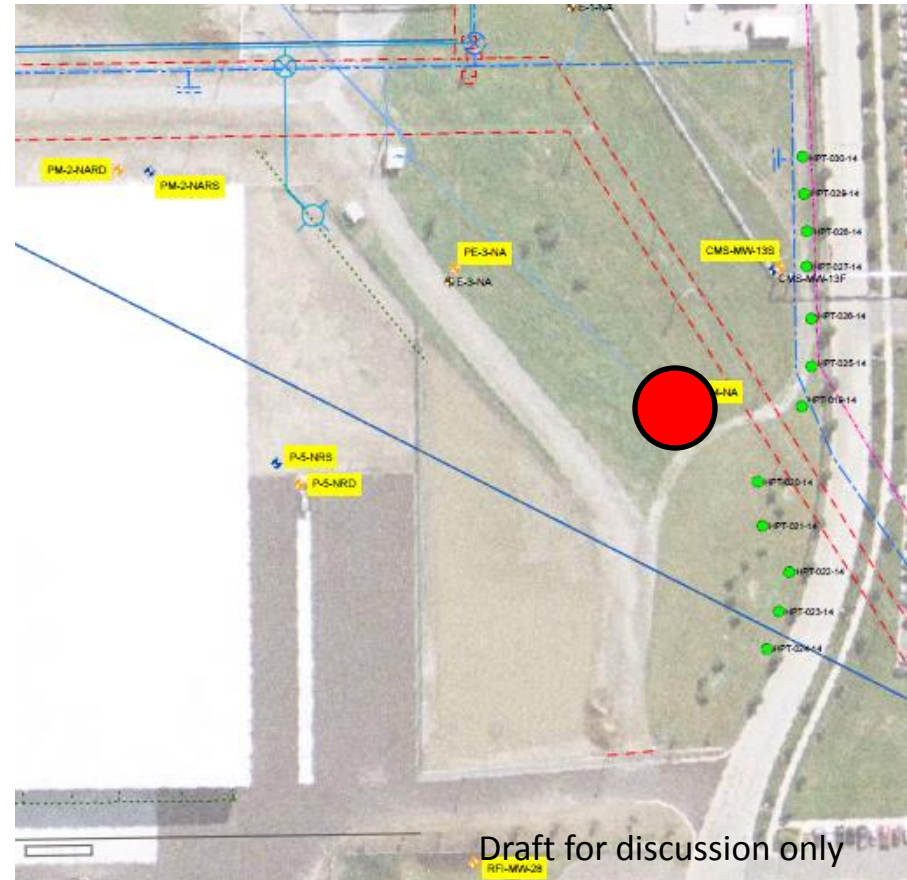
Pre-Investigation Conditions:
Southern Boundary FAV Exceedances
detected in 2012 sampling



PE-4-NA



Benzene
2012: 56,000 $\mu\text{g/L}$
2014: 110,000 $\mu\text{g/L}$



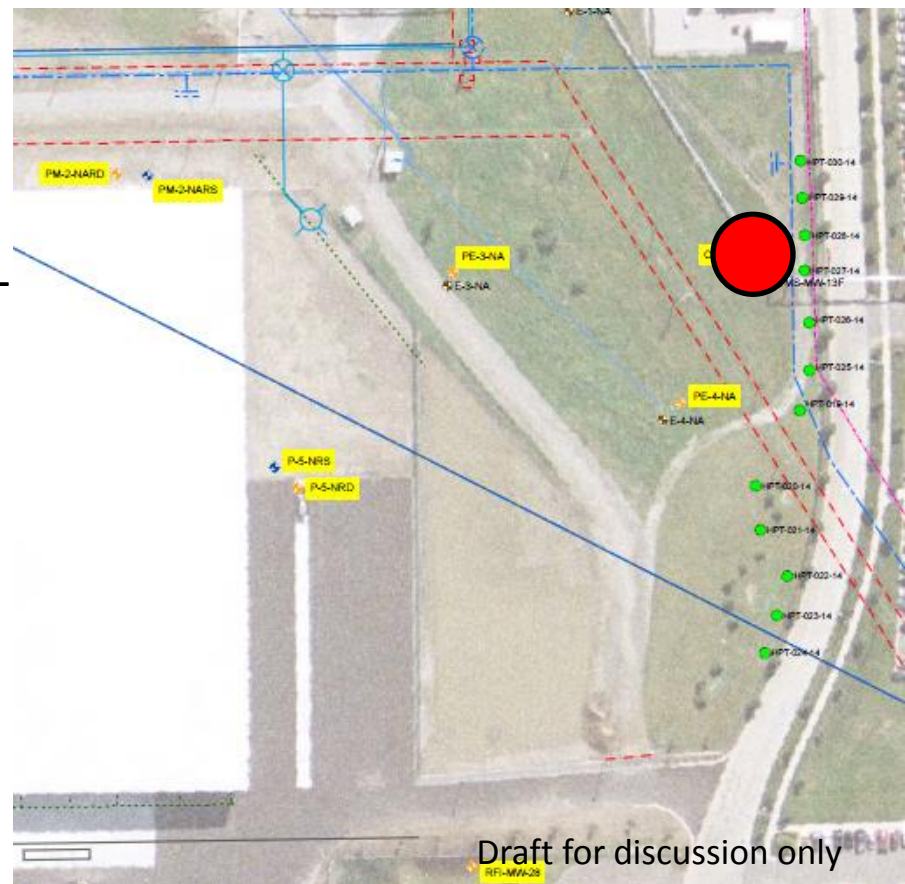
CMS MW 13 F
Benzene = 260 µg/L
Naphthalene = 1,100 µg/L

Benzene = 260 $\mu\text{g/L}$

Naphthalene = 1,100 µg/L

Benzene 210 µg/L

Naphthalene 820 µg/L



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2014 CMS Investigation

12 HPT to map
stratigraphy

12 VAP borings
to map
concentrations

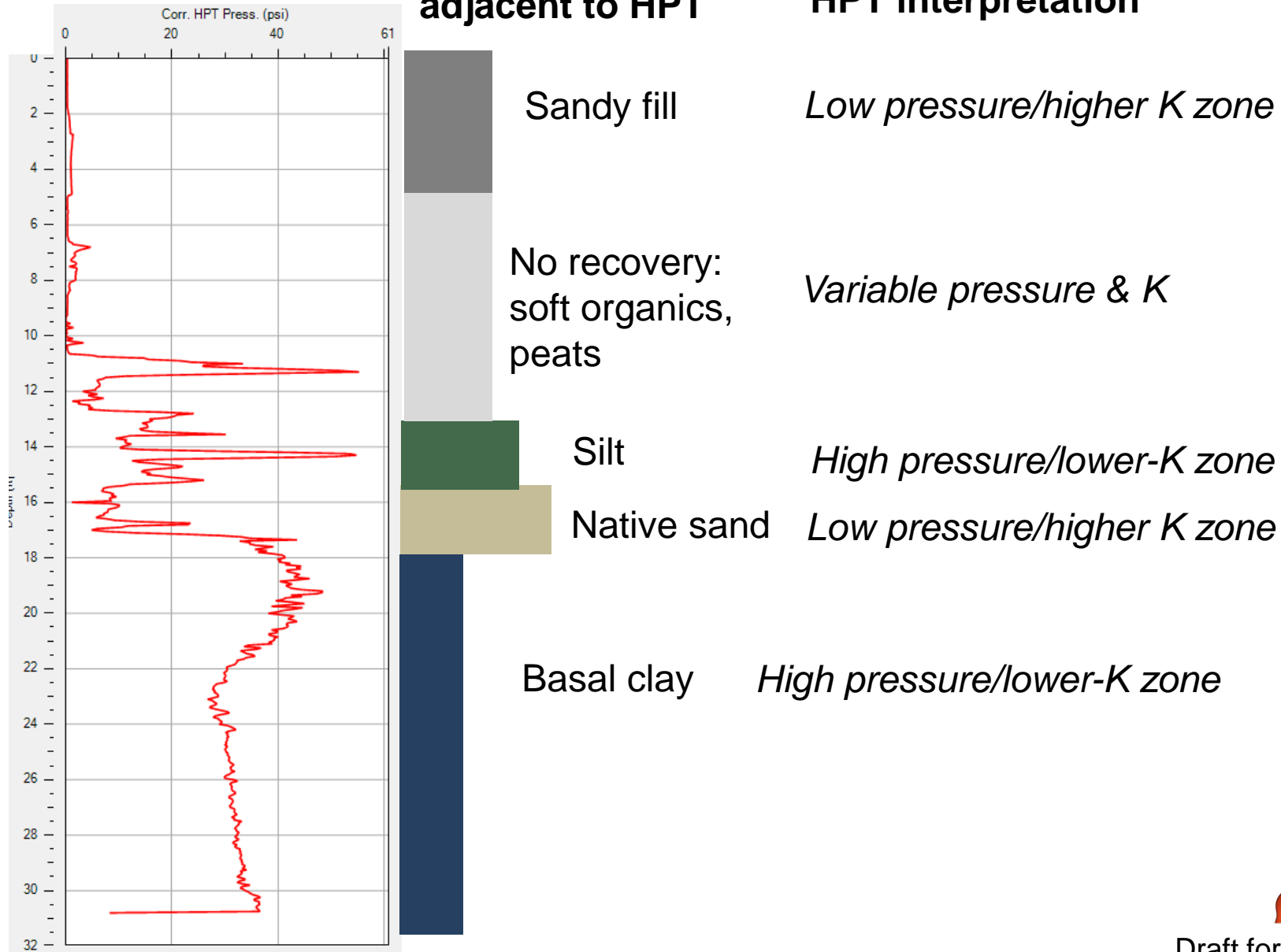
Results

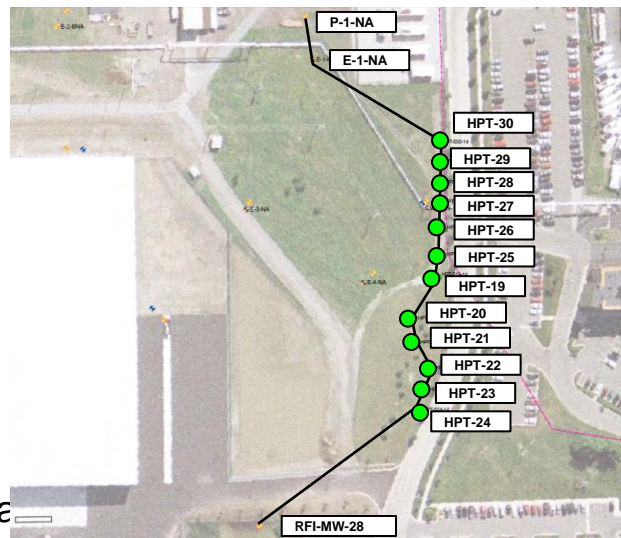
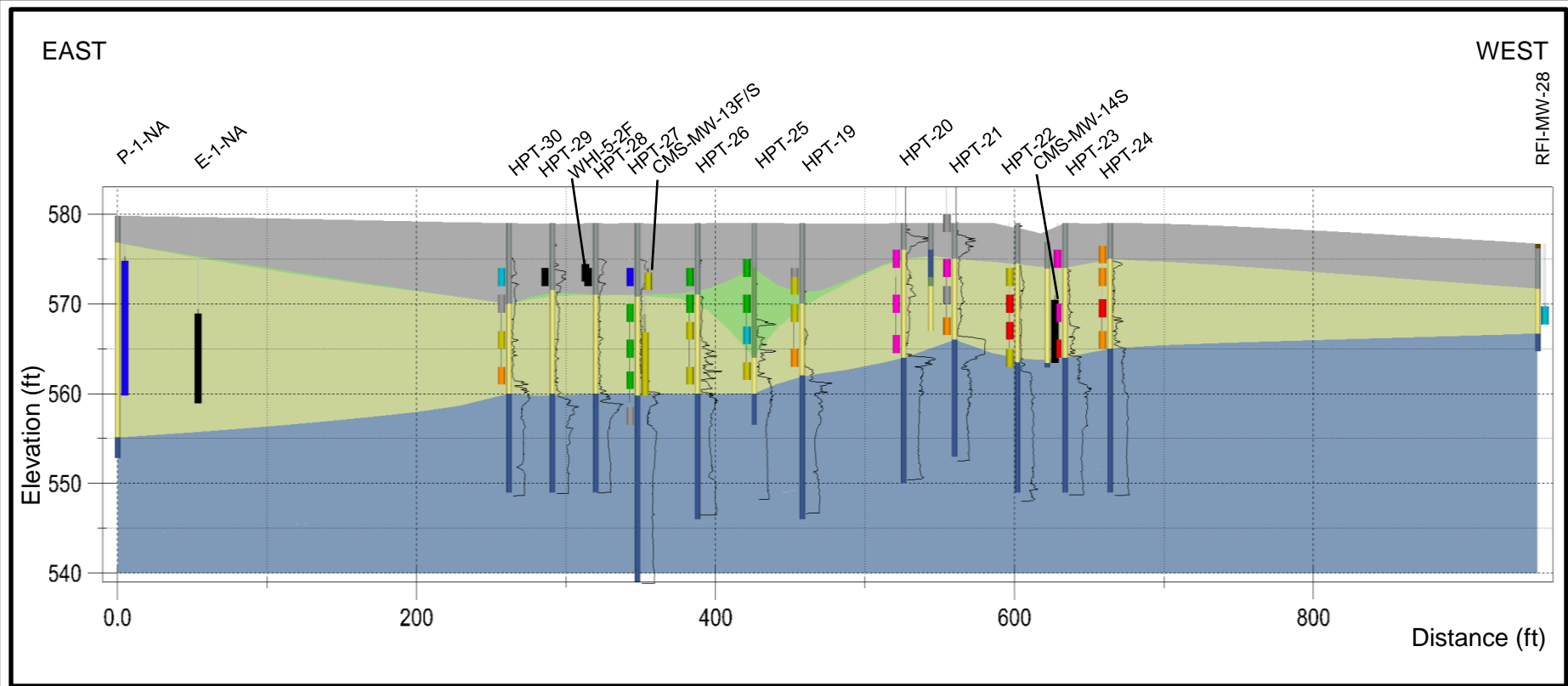
- Soil types, HPT, and cross section
- Analytical results
 - Benzene, naphthalene
- CH₄ results

HPT Example Interpretation

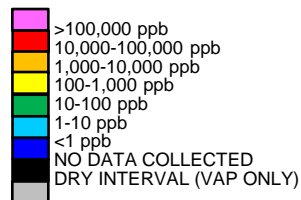
Boring log adjacent to HPT

HPT interpretation

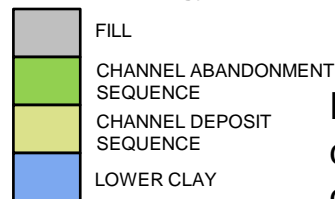




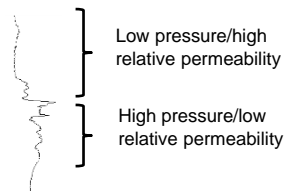
Benzene Groundwater Result



Upland Geology



HPT Pressure (psi) (increases to the right)

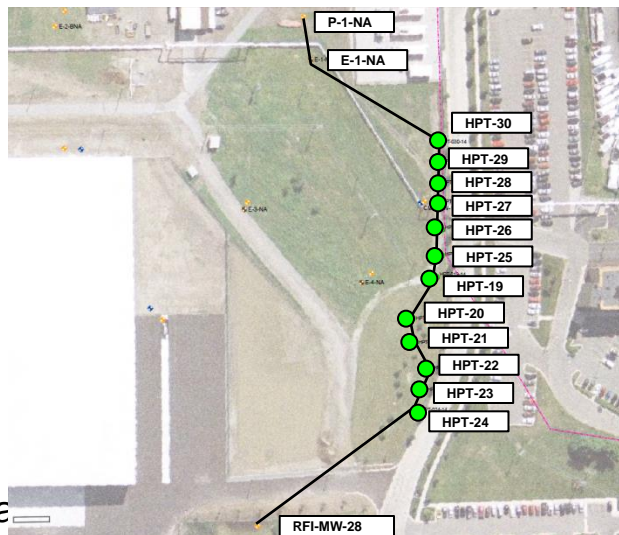
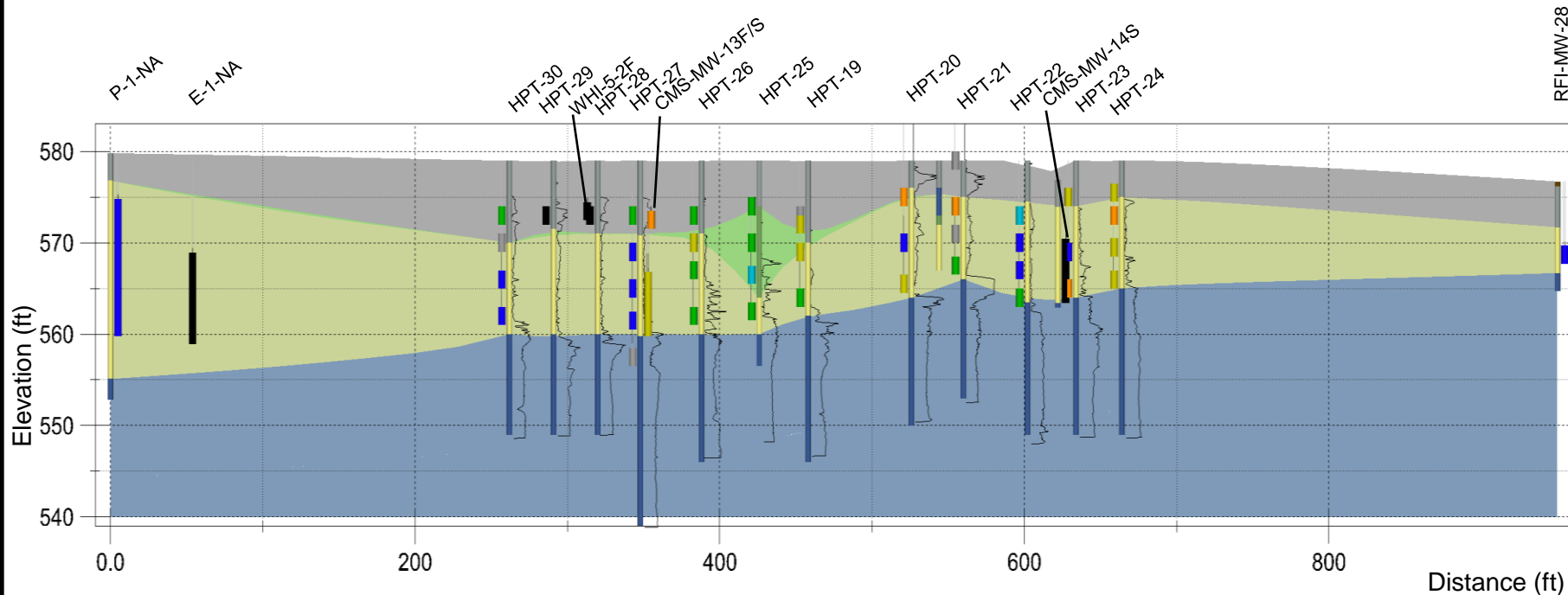


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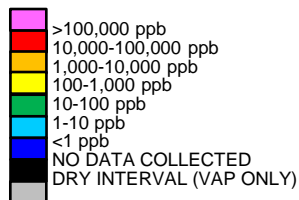
BASF NW WYANDOTTE, MI	
SOUTHERN BOUNDARY AREA UPLANDS GEOLOGY AND BENZENE IN GROUNDWATER	
	FIGURE 7

EAST

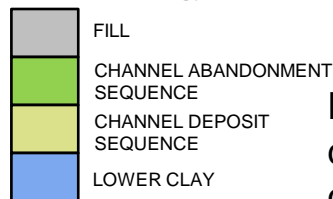
WEST



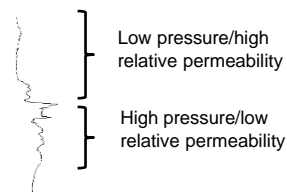
Naphthalene Groundwater Result



Upland Geology



HPT Pressure (psi) (increases to the right)



Draft for
discussion
only

BASF NW
WYANDOTTE, MI

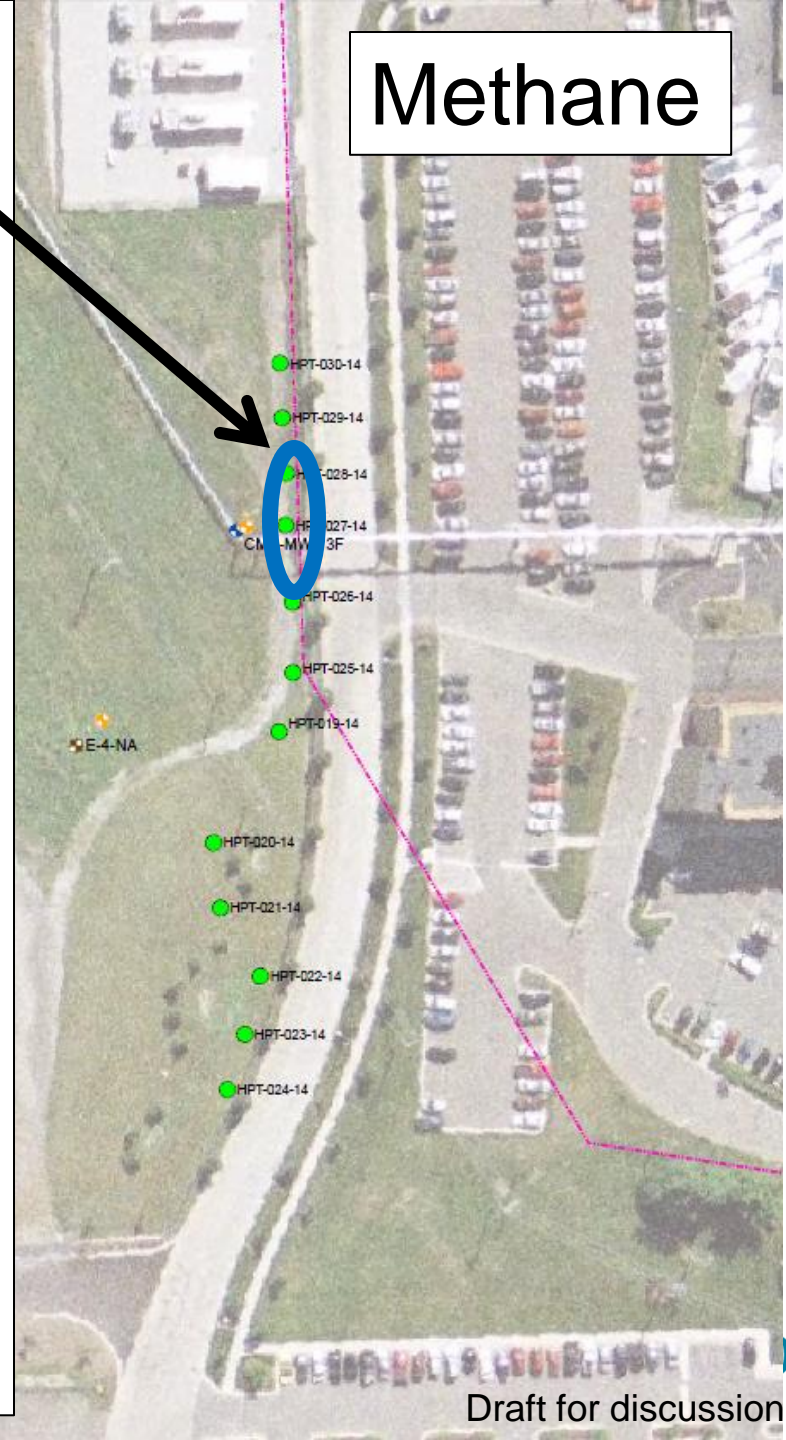
SOUTHERN BOUNDARY AREA
UPLANDS GEOLOGY AND
NAPHTHALENE IN GROUNDWATER



FIGURE
8

- Dissolved gases identified during GW sampling
- Based on historical use in the 1800s, methane was potentially present
- Additional sampling event conducted at wells in the vicinity for dissolved methane to evaluate it as a health and safety issue for our field staff
- Results not above MDEQ levels for vapor intrusion (28 PPM) and use within an enclosed structure (10 PPM)

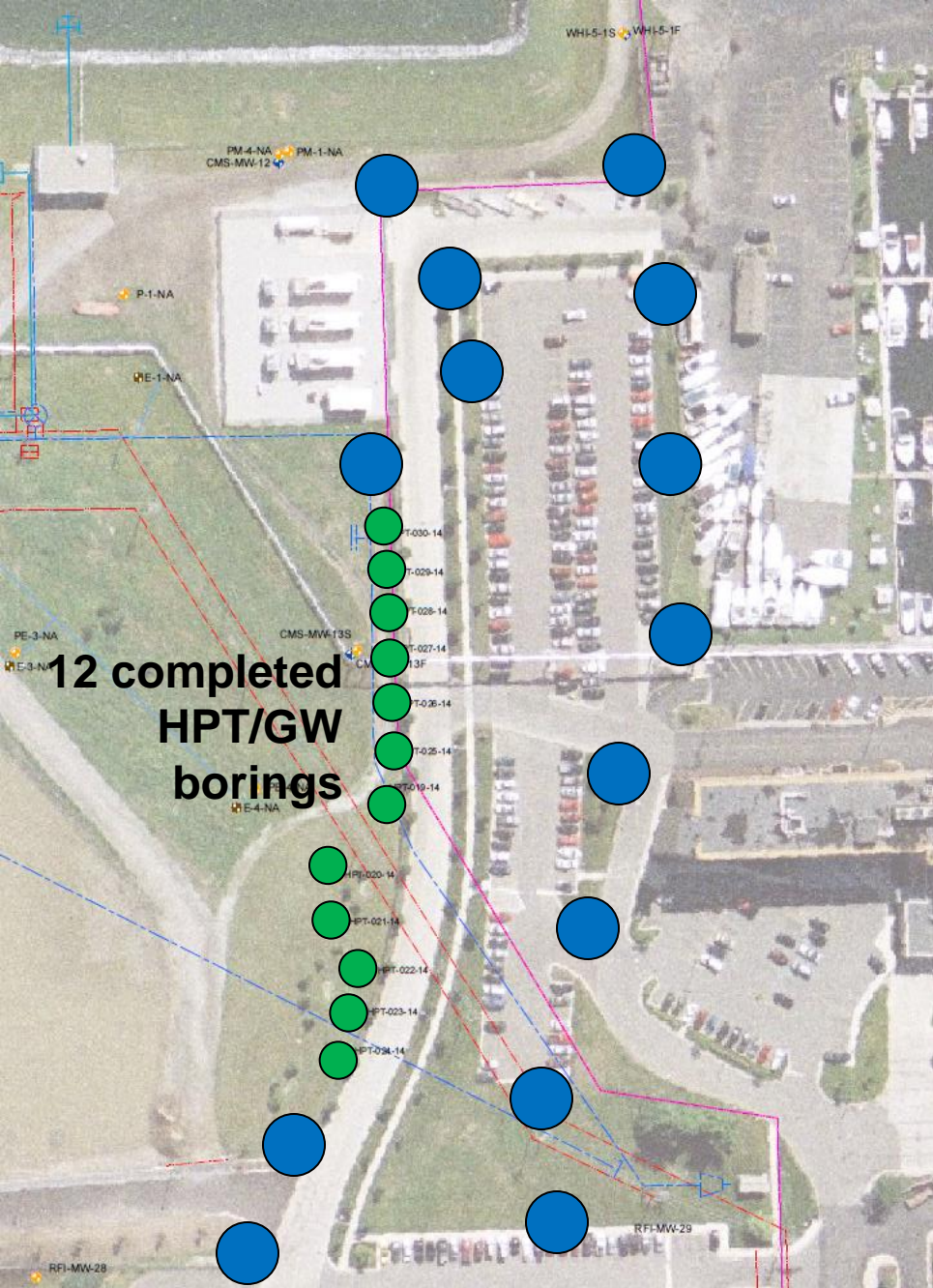
Methane



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Conclusion: Off-site investigation needed



● 14 potential borings

At each:

- HPT to identify permeable soils
- Groundwater sampling from permeable soils
- Analysis of groundwater samples for VOCs
- Four to six locations will be converted to 2-inch monitoring wells

All boring locations are approximate and will change based on field conditions, utilities, access, etc.

Next Steps

- Schedule
 - Access agreements in progress
 - Updated work plan
 - Field work